

Sources of Additional Information

Montgomery County  
Department of Environmental Protection

Indoor Air Quality Program  
255 Rockville Pike, Suite 120  
Rockville, Maryland 20850  
Tel: 240.777.7770 Fax: 240.777.7752  
<http://www.ASKDEP.com>

U.S. Environmental Protection Agency

Tel: 202.343.9370  
<http://www.epa.gov/iaq>

Montgomery County Child Care Resource Center

Tel: 301-279-1260  
<http://www.earlychildhoodservices.org>

Maryland Department of Human Resources  
Child Care Adminsitration

Tel: 410.767.7811  
<http://www.dhr.state.md.us/cc>

Beyond Pesticides

Tel: 202.543.5450  
<http://www.beyondpesticides.org>

United States Green Building Council

Tel: 202.828.7422  
<http://www.usgbc.org>

U.S. Consumer Product Safety Commission

Tel: 301.504.6816  
<http://www.cpsc.gov>

Washington Gas

Tel: 703.750.1400  
<http://www.washgas.com>

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Montgomery County, Maryland  
Department of Environmental Protection  
Indoor Air Quality Program

A BRIEF GUIDE FOR  
Child Care Contractors,  
Providers, and Property Managers



- Carbon Monoxide
- Pesticides
- Cleaning Compounds
- Mold
- Environmental Asthma Triggers
- Building Materials
- Radon

**"The environments of children are not simpler than those of adults just because children are smaller in size. In fact, children's environments may be quite complex...Understanding the most common environmental health risks, and understanding how children are exposed, are the first steps in risk reduction."**

*Children's Environmental Health:  
Reducing Risk in a Dangerous World  
(American Public Health Association)*

Children in child care facilities may spend 100 percent of their day indoors, yet indoor air can be more harmful to their health than the air outdoors. While indoors, children may be exposed to carbon monoxide, pesticides, compounds off-gassing from cleaning products and building materials, mold, environmental asthma triggers, and radon.

For their size, children breathe up to twice as much air as adults; therefore inhaling higher doses of harmful gases and compounds in the air. Children's developing bodies are also more likely to be harmed by pollutants particularly as babies, toddlers, and children tend to play and crawl on the ground and floors, placing them even closer to dust, pesticides, and cleaning products.

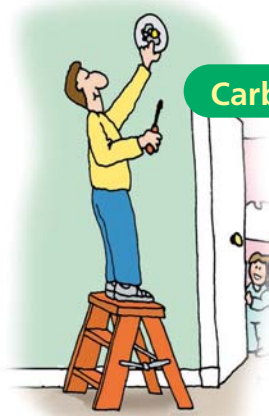


Healthy indoor child care environments can reduce children's exposure to harmful pollutants. Child care contractors, providers, and property managers, are strongly urged to keep in mind several simple steps outlined in the following chart to reduce these harmful indoor pollutants and ensure that the facility is a healthier place for all.



SEE CHART INSIDE

IDENTIFYING SOURCES OF INDOOR AIR POLLUTION, HEALTH CONCERNS, AND SIMPLE STEPS TO REDUCE EXPOSURE



Carbon Monoxide (CO)

Sources:

Unvented kerosene and gas space heaters; leaking chimneys and furnaces; backdrafting from furnaces, gas water heaters, woodstoves, and fireplaces; gas stoves; automobile exhaust from attached garages.

Health Concerns:

At low concentrations, fatigue in healthy people and chest pain in people with heart disease. At higher concentrations, impaired vision and coordination, headaches, dizziness, confusion, nausea, and death.

Steps to Reduce Exposure:

Have a trained professional inspect, clean, and tune central heating system (furnaces, flues, and chimneys) annually. Repair any leaks promptly. Keep gas appliances properly adjusted. Do not idle cars inside the garage. Install a carbon monoxide detector.

Pesticides

Products used to kill pests (insecticides, termiticides, and some fungicides); products used on lawns and gardens that drift, or are tracked indoors.

Irritation to eye, nose, and throat; damage to the central nervous system and kidneys; and an increased risk of cancer.



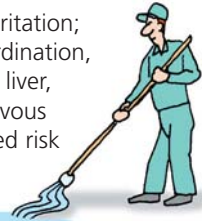
Use pest management practices that present the least risk. Use non-chemical methods of pest control where possible. Keep indoor spaces clean, dry, and well-ventilated to avoid pest and odor problems. Use strictly and according to manufacturer's directions; store outside and away from children; dispose of unwanted containers safely; and, if using a pest control company, select it carefully.

Cleaning Compounds

A large number of products including aerosol sprays, cleansers, and disinfectants.



Eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to the liver, kidneys and central nervous system; and an increased risk of cancer.



Purchase environmentally-friendly products that will not introduce pollutants into your home. Use organic alternatives for cleaning. Try to use products that present the least amount of risk, and use according to the manufacturer's directions. Throw away unused or little-used containers safely, and buy only in quantities that you will use.

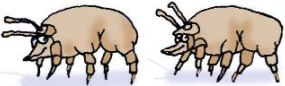
Mold

Wet or moist walls, ceilings, carpets, and furniture, poorly maintained humidifiers, dehumidifiers, and air conditioners. Molds can grow anywhere there is high moisture.

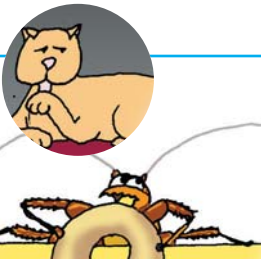
Eye, nose and throat irritation; allergic reactions and asthma attacks.

Find and correct moisture problems that allow mold to grow. Install and use fans vented to the outdoors in kitchens and bathrooms. Vent clothes dryers to the outdoors. Promptly clean and dry, or remove damaged materials. Maintain humidity levels between 30 to 50 percent.

Environmental Asthma Triggers



Dust mites, dust, bedding, cockroaches, environmental tobacco smoke (secondhand smoke), and pet dander.



Eye, nose, and throat irritation; asthma (wheezing, shortness of breath, and coughing); and lung cancer.



Cover mattresses and pillows in dust-proof (allergen-impermeable) zippered covers. Remove dust often with a damp cloth. Use vacuums with high efficiency (HEPA) filters. Eliminate places for pests to hide and keep them from food and water. Do not smoke cigarettes, cigars, or pipes indoors.

Building Materials

Paints—including lead-based paint hazards—and floor coatings, carpeting, adhesives, art supplies, organic solvents, formaldehyde, and other chemicals.



Eye, nose, and throat irritation; asthma (wheezing, shortness of breath, and coughing); headaches and nausea, kidney and liver damage; learning disabilities, behavior problems, seizures, and death.

Purchase water-based coating and adhesive alternatives. For wood floors, use a water-based polyurethane, and apply only low-VOC adhesives. Purchase carpet made with materials from recycled or reused products or use carpet tile. Test homes built before 1978 for lead-based paint. Consult a doctor for advice on testing children for lead.

Radon

A radioactive gas released from soil and rock beneath buildings and which can accumulate in enclosed spaces.

Radon exposure increases the risk of lung cancer and contributes to approximately 21,000 lung cancer deaths each year.

Test your center for radon at least once a year, and take corrective action if your radon level is 4.0 PicoCuries per liter (pCi/L) or higher.

